

Amendments to the Claims

1. (original) A VUV-excited device including a discharge chamber with a phosphor coating, the discharge chamber containing a rare gas or rare gas mixture, the phosphor coating being applied to an inner surface of the discharge chamber, the device when operated generating a discharge which emits vacuum ultraviolet radiation as a primary source of excitation, the phosphor coating containing a europium-activated, calcium-substituted barium hexa-aluminate phosphor.

2. (currently amended) The VUV-excited device of claim 1 wherein the europium-activated, calcium-substituted barium hexa-aluminate phosphor has a composition which is represented by  $\text{Ba}_{1.29-x-y}\text{Ca}_x\text{Eu}_y\text{Al}_{12}\text{O}_{19.29}$ , wherein  $0 < x < 0.25$  and  $0.01 < y < 0.200.20$ .

3. (original) The VUV-excited device of claim 1 wherein the device generates a vacuum ultraviolet light having a wavelength of 147 nm to 173 nm.

4. (original) The VUV-excited device of claim 1 wherein the discharge chamber contains xenon or a mixture of xenon and helium.

5. (original) The VUV-excited device of claim 1 wherein the phosphor coating additionally contains a phosphor selected from the group consisting of europium-activated barium magnesium aluminate, europium-activated barium magnesium aluminate coated with aluminum oxyhydroxide, and  $(\text{Gd},\text{La})\text{PO}_4:\text{Tm},\text{Li}$ .

6. (original) The VUV-excited device of claim 1 wherein the phosphor coating additionally contains a  $(\text{Gd},\text{La})\text{PO}_4:\text{Tm},\text{Li}$  phosphor and a ratio of the europium-activated, calcium-substituted barium hexa-aluminate phosphor to the  $(\text{Gd},\text{La})\text{PO}_4:\text{Tm},\text{Li}$  is in the range from 2:1 to 20:1 by weight.

7. (original) The VUV-excited device of claim 1 wherein the europium-activated, calcium-substituted barium hexa-aluminate phosphor is coated with aluminum oxyhydroxide.

8. (currently amended) A VUV-excited device including a discharge chamber with a phosphor coating, the discharge chamber containing a rare gas or rare gas mixture, the phosphor coating being applied to an inner surface of the discharge chamber, the device when operated generating a discharge which emits vacuum ultraviolet radiation as a primary source of excitation, the phosphor coating containing a europium-activated, calcium-substituted barium hexa-aluminate phosphor having a composition which is represented by  $\text{Ba}_{1.29-x-y}\text{Ca}_x\text{Eu}_y\text{Al}_{12}\text{O}_{19.29}$ , wherein  $0 < x < 0.25$  and  $0.01 < y < 0.200, 20$ .

9. (original) The VUV-excited device of claim 8 wherein the device generates a vacuum ultraviolet light having a wavelength of 147 nm to 173 nm.

10. (original) The VUV-excited device of claim 8 wherein the discharge chamber contains xenon or a mixture of xenon and helium.

11. (original) The VUV-excited device of claim 8 wherein the phosphor coating additionally contains a phosphor selected from the group consisting of europium-activated barium magnesium aluminate, europium-activated barium magnesium aluminate coated with aluminum oxyhydroxide, and  $(\text{Gd}, \text{La})\text{PO}_4:\text{Tm}, \text{Li}$ .

12. (original) The VUV-excited device of claim 8 wherein the phosphor coating additionally contains a  $(\text{Gd}, \text{La})\text{PO}_4:\text{Tm}, \text{Li}$  phosphor and a ratio of the europium-activated, calcium-substituted barium hexa-aluminate phosphor to the  $(\text{Gd}, \text{La})\text{PO}_4:\text{Tm}, \text{Li}$  is in the range from 2:1 to 20:1 by weight.

13. (original) The VUV-excited device of claim 8 wherein the europium-activated, calcium-substituted barium hexa-aluminate phosphor is coated with aluminum oxyhydroxide.

14. (currently amended) A method of generating blue light comprising exciting a blue-emitting phosphor with vacuum ultraviolet radiation, the blue-emitting phosphor comprising an europium-activated, calcium-substituted barium hexa-aluminate phosphor wherein the europium-activated, calcium-substituted barium hexa-aluminate phosphor has a composition which is represented by  $\text{Ba}_{1.29-x-y}\text{Ca}_x\text{Eu}_y\text{Al}_{12}\text{O}_{19.29}$ , wherein  $0 < x < 0.25$  and  $0.01 < y < 0.20$ .

Claim 15 (canceled).

16. (original) The method of claim 14 wherein the device generates a vacuum ultraviolet light having a wavelength of 147 nm to 173 nm.

Claim 17 (canceled).

18. (original) The method of claim 14 wherein the phosphor coating additionally contains a phosphor selected from the group consisting of europium-activated barium magnesium aluminate, europium-activated barium magnesium aluminate coated with aluminum oxyhydroxide, and  $(\text{Gd},\text{La})\text{PO}_4:\text{Tm},\text{Li}$ .

19. (original) The method of claim 14 wherein the phosphor coating additionally contains a  $(\text{Gd},\text{La})\text{PO}_4:\text{Tm},\text{Li}$  phosphor and a ratio of the europium-activated, calcium-substituted barium hexa-aluminate phosphor to the  $(\text{Gd},\text{La})\text{PO}_4:\text{Tm},\text{Li}$  is in the range from 2:1 to 20:1 by weight.

20. (original) The method of claim 14 wherein the europium-activated, calcium-substituted barium hexa-aluminate phosphor is coated with aluminum oxyhydroxide.